(chart paper or ADC equipment). Maintain approximately the same flow rates and system pressures used in paragraph (e)(5) of this section.

(10) Collect background HC, CO, CO_2, and NO_X in a sample bag.

(11) Perform a post-analysis zero and span check for each range used at the conditions specified in paragraph (e)(5) of this section. Record these responses as the post-analysis values.

(12) Neither the zero drift nor the span drift between the pre-analysis and post-analysis checks on any range used may exceed 3 percent for HC, or 2 percent for NO_X, CO, and CO_2, of full scale chart deflection, or the test is void. (If the HC drift is greater than 3 percent of full-scale chart deflection, hydrocarbon hang-up is likely.)

(13) Determine HC background levels for the cold start cycle by introducing the background sample into the overflow sample system.

(14) Determine background levels of NO_X, CO, or CO_2 (if necessary) by the bag technique outlined in paragraph (d) of this section.

(15) Repeat paragraphs (e) (4) through (14) of this section for the hot cycle. The post-analysis zero and span check for the cold start (or previous hot start) cycle may be used for the pre-analysis zero and span for the following hot start cycle.

(f) *HC hang-up*. If HC hang-up is indicated, the following sequence may be performed:

(1) Fill a clean sample bag with background air.

(2) Zero and span the HFID at the analyzer ports.

(3) Analyze the background air sample bag through the analyzer ports.

(4) Analyze the background air through the entire sample probe system.

(5) If the difference between the readings obtained is 2 percent or more of the HFID full scale deflection, clean the sample probe and the sample line.

(6) Reassemble the sample system, heat to specified temperature, and repeat the procedure in paragraphs (f) (1) through (6) of this section.

(g) For CH_3OH (where applicable), introduce test samples into the gas chromatograph and measure the concentration. This concentration is C_{MS} in the calculations.

(h) For HCHO (where applicable), introduce test samples into the high pressure liquid chromatograph and measure the concentration of formaldehyde as a dinitrophenylhydrazine derivative in acetonitrile. This concentration is C_{FS} in the calculations.

[54 FR 14602, Apr. 11, 1989, as amended at 60 FR 34375, June 30, 1995]

§ 86.1340–94 Exhaust sample analysis.

Section 86.1340–94 includes text that specifies requirements that differ from § 86.1340–90. Where a paragraph in § 86.1340–90 is identical and applicable to § 86.1340–94, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.1340–90.”

(a) through (d)(6) [Reserved]. For guidance see § 86.1340–90.

(d)(7) Measure HC (except diesels), CH_4 (natural gas-fueled engines only), CO, CO_2, and NO_X sample bag(s) with approximately the same flow rates and pressures used in § 86.1340–90(d)(3). (Constituents measured continuously do not require bag analysis.)

(d)(8) through (h) [Reserved]. For guidance see § 86.1340–90.

[59 FR 48534, Sept. 21, 1994, as amended at 60 FR 34375, June 30, 1995]

§ 86.1341–90 Test cycle validation criteria.

(a) To minimize the biasing effect of the time lag between the feedback and reference cycle values, the entire engine speed and torque feedback signal sequence may be advanced or delayed in time with respect to the reference speed and torque sequence. If the feedback signals are shifted, both speed and torque must be shifted the same amount in the same direction.

(b) *Brake horsepower-hour calculation*. (1) Calculate the brake horsepower-hour for each pair of engine feedback speed and torque values recorded. Also calculate the reference brake horsepower-hour for each pair of engine speed and torque reference values. Calculations shall be to five significant digits.